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The Effect of Peer Education on Peer Educators' Reproductive Health Knowledge, Attitude, Health Service use and their Personal Development

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Abstract

Peer reproductive health education has been in use in developed and developing countries and its efficacy in changing knowledge and attitude of education beneficiaries is reported. On the other hand despite its wide use, reports on its effect on peer educators are scarce. Thus this study has assessed the effect of peer education on peer educators' reproductive health knowledge attitude, health service use and their personal development. Selected constructs from Health Promotion Model were used as a framework to guide the study and to understand how they mediate the effect of reproductive health education on PEs. *Research Design***:** This study presents part of the bigger, community-based, randomized, controlled pretest/posttest intervention study of Ph.D dissertation of principal investigators.

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Qualitative data was also collected to evaluate peer educators' experiences and their personal development as educators. The study was conducted in Dbarawa secondary school. *Purposive sampling* was used to select 17 peer educators who qualify the selection criteria, out of the 165 randomly selected female students in grade nine for the intervention study. The peer educators were trained as trainers and taught their fellow peers. Pre-test and post-test data was collected using a predesigned and pretested questionnaire and interview guide applying the necessary ethical considerations. *Data analysis*: Descriptive and inferential statistics (paired t-test & chi-square at alpha (α) 0 .01) were used to explain and compare for significant changes, in the pre-and post test mean scores and proportions using SPSS software. The results show that peer educators were homogeneous in age, grade, ethnic background and religious affiliation. RH knowledge significantly increased from pretest to posttest that is from 5.6 at pretest to 35 at post test p=0.0001. Peer educators' attitude towards reproductive health issues changed significantly from pre test that is 36.4% to 67.0% at post test p= 0.0002. Health service use by PEs amazingly increased after the intervention from 16.5% at pretest to 96.5% p=0.0001) at posttest. Moreover peer educators gained tremendous personal growth. As a conclusion we can say that peer education is effective in changing the reproductive health knowledge, attitudes and health service use of peer educators. In addition Peer educators have gained great personal growth as educators. Thus peer education should be considered as one of the best strategy to disseminate reproductive health education and to nurture adolescents for future leaders.

***Keywords**:* Peer education; peer educators; personal gains; modeling; support; Eritrea.

1. Introduction

Adolescence is, the period between 10 and 19 years, with fast physical, social, emotional and cognitive changes, that largely shape the future course of boys' and girls' lives [1]. Puberty is the "time of life that is characterized by maturation of the hypothalamic-pituitary-gonadal axis, accelerated physical growth and the development of secondary characteristics that attract the sexes to each other" [2]. Secondary sexual growth, changes in hormonal secretion, emotional, cognitive and psychosocial development result in sexual curiosity and experimentation [2]. Due to their risky unsafe sexual practice adolescents are exposed to unintended pregnancies, unsafe abortions, early childbearing, sexually transmitted diseases, and Acquired Immune Deficiency Syndrome [3].

Self-management of habits that enhance health is a good medicine and knowledge creates the precondition for change. The most suitable strategy for delivering the message is critical for learning to occur. Through their behavior and expressed ways of thinking, competent models transmit knowledge and teach observers effective skills and strategies for managing environmental demands [4]. Adolescence is a critical stage in identity formation, and seeks mutual support by forming groups, which provide them with prototype models they value most [5]. It is confirmed that young people prefer receiving adolescent reproductive health information from peers, as opposed to from adults or in a traditional school setting.

Peer education is a popular concept that implies an approach, a communication channel, a methodology, a philosophy, and a strategy [6]. School based peer led education is the most preferred strategy to teach adolescents about reproductive health because they share key characteristics such as behavior, experience, status

or cultural background that makes them more credible source of information than adult [7]. Peers play a critical role in the lives of adolescents by serving as support for each other, as formal and informal models of behaviors, and as trusted sources of information [8, 9]. Studies reported, peers strongly influence behavior of their fellow peers therefore should be trained and role model their fellow peers to help them adopt positive behaviors [10, 11].

Peer reproductive health education has been in use in developed and developing countries and studies have reported its efficacy in changing knowledge and attitude of education beneficiaries [12]. Despite its wide use, its effect on peer educators has not been reported. Very few studies reported Peer educators gained more RH knowledge and skills that decreased their high-risk behavior[13] , benefited experience as educators that lead to attitude and behavior change[14], overall gains in three domains cognitive and behavioral; connectedness and self-concept; and changes in information [8].

Thus the aim of the study was to assess the effect of peer education on peer educators, their experiences and personal development as educators. The peer educators (PEs) taught their follow peers for three months and the RH education program brought significant changes on PEs RH knowledge, attitude and practice and their personal development.

1.1 Overview of the school-based reproductive health education intervention in Dbarwa Secondary School (DSS).

DSS is one of the four high schools randomly selected for RH education clinical trial in Southern Region (Zoba Debud) Eritrea. DSS was randomly assigned for intervention. In DSS 164 female grade nine students were randomly selected for RH education intervention and 17 students who qualify the selection criteria were selected for PEs, each to facilitate RH discussion for one group of 10 students.

The intervention included: curriculum development, selection of Peer educators, pretest data collection, 15 days training of peer educators (ToT), implementation of peer reproductive health education to the target intervention female students, continuous supportive supervision and refresher training and post intervention evaluation.

- **Training of peer educators** (training of trainers-ToT)

The peer reproductive health education curriculum developed by the principal investigator was approved by the ethical and scientific approval committee of University of Khartoum. It contained five modules that include: Communication and basic teaching skills; basic human reproductive anatomy and physiology; developmental changes during adolescence; Pregnancy and Pregnancy prevention; and sexually transmitted diseases. Every module had a detailed syllabus that included teaching methods. The modules were translated in to local language (Tigrigna) and prepared as a handout. Each intervention target students were given the handout and the PEs were given the handout and the whole curriculum.

Training was conducted from March 1 to 15, 2014. The time table was revises and arranged that it accommodates the convenience of the PEs' academic schedule.

The teaching method was participatory and reflective. The reflective teaching helped PEs relate the RH information to the real problems adolescent girls face. While taking the ToT PEs were practicing RH discussion in their groups. This practice gave chance to the principal investigator correct the gaps and shape PEs as educators and discussion facilitators.

- **Educating the intervention target students** (education beneficiaries)

The school principal arranged early opening of the classrooms (7am) one hour before the start of regular academic classless for peer reproductive health education (PRHE) use. All PEs run their discussion from 7-8 am Monday to Friday for three months.

For those students who were coming from far places PEs arranged special time that suited with their academic classes.

- **Project evaluation**

Evaluation of the intervention included both process and final outcome evaluation. The process evaluation which was done every two weeks helped correct gaps encountered during the intervention. The PEs' team leader facilitated weekly meeting of PEs that gave them chance to share their experiences.

At the end of the project final evaluation was conducted.

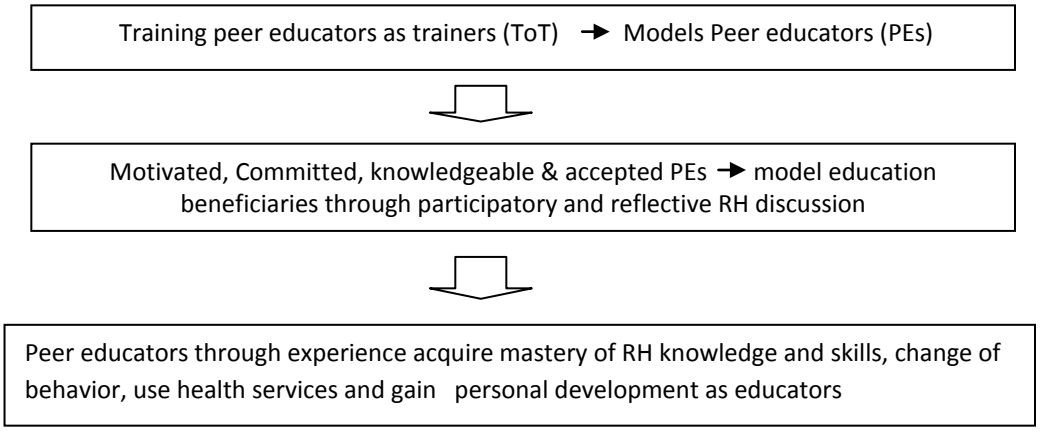
Moreover the PEs had strong support from the school principal in solving problems related to time and class management.

2. Methods and Procedures

2.1 Theoretical frame work

Central to the program objectives and activities is on the belief that adolescents can learn to become effective educators and initiators of change through modeling with appropriate support and supervision. The underpinnings of the project rest on Pender's health Promotion Model (HPM) that asserts adolescents value peer friendships and relationships, thus influential peers serve as role models for new behaviors [15]. Constructs from Pender's Revised HPM that include: a) individual characteristics and b) support and modeling from behavior-specific cognitions and affect as framework guided the study [16]. Persons are more likely to commit to and engage in health-promoting behaviors when significant others model the behavior, expect the behavior to occur, and provide assistance and support to enable the behavior. The theory will help in understanding how the selected constructs of the HPM mediate the effect of reproductive health education on PEs RH knowledge, attitude, practice, and health service use and personal development in the process of modeling behavior of their fellow peers.

***Theoretical Model**:*



2.2 Research Design

This study presents part of the bigger, community-based, randomized, controlled pretest/posttest intervention study of Ph.D dissertation of principal investigator.

In-depth interview with PEs was conducted to generate qualitative data to evalaute their experiences and personal growth as educators.

2.3 Study Area

The study area was Debarwa Secondary school (DSS) in which the reproductive health education intervention was conducted controlled by other three schools. DSS is located in the central highlands of Eritrea that is 2000 meters above sea level. Majority of the population (> 95%) are affiliated to Christian denominations and Tigrigna ethnic group [17]. DSS is the only high school serving Dbarwa sub-zone having distant villages in its catchment.

2.4 The Study volunteers

Are female grade nine students. The grade nine students are the youngest and are all in the morning shift. Students from the distant villages either walk to school or rent a house in the city where the school is located. Both walking to school and renting house in groups expose adolescent girls to risk of rape and gives more chance to early sexual initiation.

2.5 Sampling and sample size

Purposive sampling method was used. Seventeen female grade nine students who qualify the selection criteria were selected as peer educators (PEs).

The project targeted only female students in grade. In Eritrea both male and female together will never discuss RH issues freely. Grade nine, because they have more years to stay in the school that will enable longer follow up of the education beneficiaries.

2.6 Selection criteria

PEs were selected after the school was randomly assigned for intervention and before the collection of the pretest data based on the below listed criteria.

- Good interpersonal skills,
- Good academic performance,
- Confidence to work with peers,
- High level of responsibility,
- Willing and motivated to participate,
- Having acceptable behavior that is: polite, respect others, attend school regularly able to deal effectively with own problems

Pretest post test data related to PEs was isolated from the start of data collection.

2.7 Variables

Independent Variable: Reproductive Health Education; dependent: variables reproductive health Knowledge, attitude, and practice and Health service use.

Measuring variables: the effect peer education on PEs and their personal development gains as educators was measured quantitatively and qualitatively. Knowledge mean scores and proportions of their Attitudes, and Health service use, were tested for any significant difference between pre-test and post-test results. Developmental gains were derived from descriptions of the in-depth individual interview and categorised in thematic areas.

2.8 Data collection tools

Self developed, pretested, predesigned questionnaire was used. The Questionnaire captured demographic data of students and their family background. The reproductive health knowledge, attitude, and health service use. Individual in-depth interview guide predesigned and pretested.

2.9 Data Collection

Pre-intervention and post-intervention data was collected using the same questionnaire

Permission was secured from the Ministry of Education and Ministry of Health. Prior to data collection the schools were visited, dates for data collection were set and two facilitators were identified from each school.

Data collectors were trained for two days, and one day rehearsal of data collection was done. Participants were oriented that participation is voluntary; sign consented of participation, and free to withdraw any time. For those underage the school took the responsibility to inform students' families

The data was collected pre-test (baseline data) in March 2014 and the post-test in June 2014 as part of the bigger project.

Quality of data was controlled for completeness, cleansed and checked for inconsistencies by the statistician and the researcher.

In-depth individual interview were collected to explore PEs experiences and gains in personal growth as educators

2.10 Data Processing and Analysis

Data were coded, edited and entered, cleaned for inconsistencies and analyzed using Statistical Package for Social Sciences (SPSS) software. Descriptive statistics to analyze socio-economic variables and inferential statistics t-test and chi-square to determine the differences, between Pretest and Posttest scores on RH knowledge, attitudes toward RH and health service use of PEs were used .

The responses that address the knowledge related questions were given a score ranging from 0 (zero) to 10 (ten) with a total expected score of 61 (sixty one). Mean scores along with 99% Confidence Interval in pre-test and post-test was calculated and paired t-test was used to determine if there was a statistically significant difference. Questions related to health service use and attitude were categorical, proportions were calculated and Chi-square test was used to determine if there was statistically significant difference between pretest and post test results at alpha (α)= 0 .01.

3. Results

3.1 Part 1: the quantitative data

The results are discussed under thematic areas of the questionnaire, namely peer educators' demographic characteristics and their parents, RH knowledge, attitudes and use of health services

3.1.1 Socio demographic characteristics

Peer educators (PEs) were homogenous in every aspect; they were 17 grade nine female students between the ages of 14-17 years (59% are 15 and 16 years old). Their parent's educational level (father and mother) is below grade 8 that is very low by national standards.

Table 1: Peer educators Pre-test and post-test mean score on Reproductive health Knowledge

	Pretest	post test	P-value
FI. Female reproductive system			
Female reproductive organs	0.267	7.27	0.0001*
Female reproductive Glands	0.000	2.00	0.0001*
Age at which menarche starts	0.80	0.87	0.582
Average days of menstrual cycle	0.60	0.87	0.040
Fertile days in menstrual cycle	2.00	9.33	0.0001*
Subtotal score	**3.67**	**20.3**	**0.0001***
F2. Sexually transmitted Infections (STIs)			
Mention STIs that affects adolescents	0.533	3.00	0.0001*
Mention Signs and symptoms of STIs	0.000	2.07	0.0001*
Mention Modes of transmission of STIs	0.467	2.33	0.0001*
Mention best prevention method of STIs	0.267	1.000	0.0001*
Subtotal score	1.27	8.40	0.0001*
Family planning Knowledge			
Where can you find contraceptives	0.533	1.33	0.0001*
Mention Modern methods of family planning	0.066	2.53	0.0001*
Mention two types of hormonal contraceptives	0.00	1.07	0.0001*
Mention types of emergency contraception	0.000	0.867	0.0001*
Subtotal scores	0.667	6.13	0.0001*
Grand total score	5.6	35	0.0001*

*p<.01

3.1.2 Pretest and posttest RH knowledge

The peer educators' RH knowledge significantly changed from pretest to post test as shown in table 1. The knowledge scores that was calculated out of 61points, rose from 5.6 at pretest to 35 at post test p=0.0001*. Their knowledge on reproductive physiology such as female reproductive glands; fertile days within the menstrual cycle; STI types, their signs and symptoms and mode of transmission; emergency contraception and types of hormonal contraceptives changed almost from zero to 100%.

3.1.3 Pre-test and post-test attitudes toward reproductive health

Peer educators' attitude towards reproductive health issues changed significantly from pre test to post test that is from 36.4% to 67% P=0.0002, at post test. Most importantly their perception towards self being at risk for becoming infected with STI rose from 33.3% to 73% and accepting use of contraceptives by unmarried girls rose from 33% to 60%.

Table 2: Pre-test and post-test results on Reproductive Health attitude

Response in %	Pretest	post test	P-value
Do adolescent girls need RH services	81.1	99.4	0.001*
I can be infected with STI any time	33.3	73.0	0.0001*
Accept a Friend to be infected with STI	20.0	48.0	0.0001*
Accept unmarried girl to have boy friend	13.0	53.3	0.0001*
Accept contraceptive use by unmarried girl	33.3	60.0	0.0001*
Sub-total	36.4	67.0%	0.0002*

*p<.01

3.1.4 Pre-test and post-test results on Reproductive Health service use

Health service use by PEs amazingly increased after the intervention from 16.5% at pretest to 96.5% p=0.0001 at posttest. The PEs arranged health facility visit schedule with the heads of health centers, took their groups to

the health facilities, were oriented about the available free RH services for everybody and had their blood checked for HIV.

Table 3: Pre-test and post-test results on Reproductive Health service use (n=17)

	Response in %		
	Pretest	post test	P-value
Use health services for any purpose	13.3	100	0.0001*
Planned to get regular RH services	20	93.3	0.0001*
Started getting RH services	20	100	0.0001*
Started giving RH advice to others	13.3	93.3	0.0001*
Over all	**16.5**	**96.5%**	**0.0001***

*p<.01

3.2 Part II: The qualitative data

3.2.1 Experiences of peer educators and their personal development gains as educators

The in-depth individual peer educators' responses are analysed and organized under six themes that include: teaching and facilitation experience,; Fears and Difficulties; Overcoming problems; Benefits and gains; Suggestions

3.2.2 Teaching and facilitation experience

Main role PEs played was teacher role, discussion facilitator and group leading roles.

First experience as a teacher; "eighty percent of them said "*even though we were equipped with adequate RH knowledge, presentation and communication skills, at the beginning it was not easy to stand in front of audience and do presentation or lead discussion.*"

Majority of them said being a peer educator shouldered us more responsibility, *"to present RH information and lead discussion we have to prepare ourselves, read more and ask our colleagues for any unclear RH issues and collect real examples for scenarios which enhanced our teaching capacity."*

In their weekly PEs' meeting they discussed and shared experience on how to increase group members' participation in discussion. They all said *"respect everybody, involve group members by sharing discussion topics, every group member brings real examples of RH problems adolescent girls face in our area to class. This facilitated discussion about RH issues and helped in relating the information to concerns every adolescent girl had"*

Moreover majority of PEs said starting from the second week "our presentation and leading *discussions improved that made our group discussion very hot and lively. Every group member was very interested to ask questions and contribute to discussion by reading from their RH handouts."*

In summary use of humor at intervals, respect group members, relating RH information to real prevailing problems, involve everybody by sharing responsibility, group discussion and presentation, drawing pictures (by rotation) on the blackboard and use of models raised every body's interest and enriched PEs' teaching experience

3.2.3 Fears and Difficulties

All PEs had the fears of being accepted or rejected by their fellow peers and said *"at the start of the program we were afraid whether the students will accept us as teachers and group leaders or not*". One said "this *was my first presentation so it was not easy to do my presentation and lead the discussion for the first two days.*" Another one also said *"I was shy to present RH information that was taught to me as a taboo by my mother and elder sisters."*

PEs reported at the begging of the RH discussion, very few students demonstrated problem behaviors which was explained as, *"some of the students were laughing while we were teaching, some teased us, saying doctors, teachers, experts ect"*. One student said *"Some of the older students who came from the villages had more difficult behaviors. Because RH issues are more traditional in the rural areas and they thought talking about RH is unethical."*

Another big challenge to the peer education program was that, the academic class schedule was already set for the semester and there was no room for the RH discussion time.

3.2.4 Overcoming Obstacles

PEs reported most of the problems they faced were resolved by the end of first week of the three months program and their RH discussions and health service visits went smooth.

All PEs said "*through experience sharing among ourselves in our weekly PEs' meeting, close support from the school principal and the bimonthly process evaluation and supportive feedback from the principal investigator helped us to solve our problems on time and move forward."*

Fitting RH discussion in to the school academic time table: The regular academic classes started at 8 am. All grade nine students were in the morning shift. The PEs discussed the problem with the school principal and agreed that they run their RH discussion at 7 am an hour earlier before regular academic classes.

Thus PEs said "*we run our RH discussion daily Monday through Friday 7am -8am for three months. For those who were coming from distant villages we arranged special discussion time and covered all topics to them."* Moreover they said. "*Because we were all in grade nine we used our free periods and break times to discuss and talk about RH topics"*

Overcoming shyness: all PEs said "*the repeated reading, rehearsal of our presentation, support and encouragement from PEs and the peer educated (fellow peers) encouraged us build our confidence and stop shyness.*" By the end of the project we are now able to do RH presentations to a larger group of students.

One student witnessed *"I presented a poem about the importance of RH education in students' seminar (about 500 male and female students).*

Enhancing discussion participation among group members: PEs reported, "*Starting the discussion with humor, bringing real examples and brain storming attracted our peers and increased their participation. We respected and cared to every participant which finally strengthened our mutual relationships and team work. Drawing pictures on the blackboard, and using the models enhanced participation in discussion."*

"*For the few older students who had problem behaviors, we convinced them through their close friends and gained their full cooperation soon.*"

Above all PEs expressed: "*the supportive supervision from the principal investigator shaped us how to improve our presentation and deal with problems*"

3.2.5 Personal development gains as peer educators

All (100%) PEs said "*to educate others we studied more, explored the real problem adolescent girls are facing; we visited health facilities and found out the available services for us which we never used, deepened our adolescent RH knowledge and services we need.*" More over they expressed, "*our teaching, presentation and communication skills have greatly improved that empowered us and boosted our confidence"*

3.2.6 Gains in personal development and growth

Increased confidence is mentioned by all PEs "*the increased RH knowledge, the support we got from our school, the welcoming approach of the health workers and being accepted by our fellow peers boasted our confidence. Now we are confident to deliver RH information to any group of students and share our experience to adolescents in our neighborhood"*

Improved communication skills: communication ability was key to deliver their topics and gain cooperation of their fellow peers which was report by PEs as, *" our communication skills was nurtured through the initial training (ToT), continuous experience sharing among the PEs, supportive supervision and feedback from our fellow peers" "as a result of our improved communication we gained cooperation and full involvement of our peers in our groups, full support from our school principal and services from the health facilities."*

"working closely and supporting to each other helped us solve our problems instantly and strengthened our team spirit and created lasting relationships" "now we are planning to establish a club, our school principal promised us to continue as a group and promote health activities supported by the Ministry of health."

Developed problem solving skills: PEs said *"with time we learned to be patient and solve problems flexibly*." For instance, said one peer educator "*in my group the older students were obstacles to our discussion, with patience I observed to whom they listen and convinced them indirectly through their close friends and finally gained their cooperation*"

Changed our future plans: majority said teaching RH, deepened our understanding of what females are facing due to RH illiteracy and expressed their future plans as."*To help others and to improve our personal carrier we understood we need to work hard and achieve higher education and help and our sisters and mother". "We learned setting goals and designing strategies to achieve them is a key to success*"

Self satisfaction: this was expressed by all PEs, at the start of the program they never expected that they were able make such a difference in once life , and said "*we were ignorant about RH, never knew that unmarried girl can go and get RH services. Now the 164 students who participated in the reproductive health education intervention program are enlightened and started using health services. This made us satisfied; it really taught us if we work hard with commitment we can change our community"*

Improved leadership and time management skills: PE expressed personal gains as *"Even though peer education was additional to our academic studies, with the interest we had we managed to do both well.* One said *"I developed a new time table that included my academic studies, RH discussion preparation, with no interference of my academic studies*."

Moreover all expressed, "*we never led anybody before, now handling every group members differences, we were able to lead our groups. To do this we decided to be the best models and influence others through mutual understanding and supporting to each other, and we did it, finally our entire peer followed our steps."*

3.2.7 Suggestions from PEs

- About 25% of PEs said teachers should be involved to help in controlling problem students and help in explaining difficult concepts
- Peer education should be applied to other academic activities

- Same sex composition of study population is a good idea. In our situation the female only composition facilitated the free RH discussion and close and supportive relationship among group members. But boys also should be taught about RH issues.

4. Discussions

This study revealed peer education resulted in significant increase in peer educators' RH knowledge scores, attitude and practice and great gains in their personal development.

4.1 Part I: the quantitative data

Socio demographic characteristics: all study participants (n=17) were homogenous in age and other personal and family demographic variables as shown in table 1. All were females from grade nine and Tigrigna ethnic groups, 60% were in age groups of 15and 16 years. Homogeneity, closeness of the learners and peer educators, has facilitated the effectiveness of peer education in this study that helped other studies as well [18, 14,19].

PEs in our study as shown in table, demonstrated significant increase, in scores of RH knowledge

(From 5.6 at pretest to 35 at post test p=0.0001); changes in attitudes toward RH in table 2 (from 36.4% at pretest to 67% in post test p= 0.0002) and changes in RH practice in table 3 (from 16.5% at pretest to 95.5% at post test, p=0.0001).

Knowledge influences attitude and behavior, the knowledge, attitudes, practices model (KAP) asserted "a person's knowledge will prompt a behavior change, obstacle to acting "responsibly" and rationally is ignorance "correcting" this lack of knowledge will bring: change in knowledge change in attitudes/beliefs change in behavior" [20]. In our study too, the in-depth RH knowledge and skills PEs gained by [training of trainers], enhanced by their teaching experience changed their attitudes and particularly health service use which increased from13% to 100%, similar to other studies [21].

Indeed studies from developing and developed countries reported peer led reproductive health education have brought significant changes in knowledge, attitude and behavior of adolescents [22, 23, 24, 25, 12].

Appropriate planning [26] and peer educator selection [27] play a pivotal role in the success of per education program. Moreover [23, 26, 18, 22] reported, closeness of the learners and peer educators, school environment, supervision and follow up are fundamental to peer education success. Consistent with these findings in our study too, there was careful selection of credible and accepted peer educators, well planned program, supportive relationship among intervention students and PEs and continuous supportive supervision to peer education were fundamental to the success of our project.

4.2 Part II the qualitative data: experiences of peer educators and their personal benefits as educators

People's behavior is influenced by the opinions and actions of their close, trusted peers. Peer educators can communicate and understand among themselves and their fellow peers in a way that the best-intentioned adults can't [28]. Thus peer education has been widely used around the world. Most studies in peer education focused on the education beneficiaries (peers) rather that its effect on Peer educators. Nevertheless some studies reported participating as peer educator in any form (tutoring, counseling, health education) benefits helpers in their academic performance and personal development [27, 8]

In this study all PEs were very young and their first experience to lead groups and facilitate group RH discussion. In addition reproductive health issues are very sensitive rooted in cultural taboos and beliefs making open discussions tense. With supportive environment and their flexibility they overcame problems with great success. Being a peer educator helped them develop their own innovative teaching approaches. Moreover being a peer educator shouldered them more responsibility to carry out their functions effectively and gain personal development.

Initially the PEs were afraid whether their fellow peers will accept them or not as educators similar to other study reports [14]. Other problems they encountered were setting discussion time and increasing peer participation in discussion and health service visits especially for those students who had problem behaviors.

Nevertheless the relationship between the PEs, the school principal, principal researcher and the health service was based on mutual understanding which created relaxed and supportive environment for PEs to effectively run their activities. Such an environment helped PEs gain their confidence and be able to establish trustful relationship with their peers. Studies elsewhere proved supportive environment creates respect, better communication and strong team work, empower PEs and motivate fellow peers that results in better outcomes [8, 19, 28, 29]**.** Moreover a study reported learning for peer educators depends on positive relationships and dynamics and on strong supportive relationships with adult support person, in such a relationship PEs build supportive relationships leading to practical success [30]

Peer educators gained enough experience in time so that they used different approaches to different people. They have introduced innovative teaching such as humor, sharing discussion topics among group members and reflective teaching that increased student participation in RH discussion. Humor is proved to ease the environment with greater informality of peer educators' interaction and they feel more relaxed than they would with teachers **[**9]. A Study also reported supportive modeling reduced risk behavior in heroin drug addicts in India [29], and commercial sex workers were empowered to support each other in negotiating for safer sex [31].

Similar to Banduras' principles of self efficacy, PEs' in this study developed their teaching, leadership and management skills that was gained during training of trainers and enhanced by reading more to prepare to teach their fellow peers [4]. Furthermore Angela and colleagues from their review of literature reported in addition to helping their fellow peers PEs benefited to experience personal growth, improved academic performance, more acceptance from their classmates and gained their social status [27] .

Indeed PEs in this study expressed their personal growth gains in multiple dimensions such as, increased self confidence, improved communication skills, problem solving skills, leadership and management skills. Above all PEs were satisfied because their fellow peers acquired increased RH knowledge and started using health services. Our findings are consistent with studies that reported PEs increased knowledge, decreased risk taking behavior, improved school studies and lives outside school [13, 9]. A study also reported Peer educators gained improved leadership self efficacy, improved perceptions of collective efficacy and increase in STI/HIV knowledge from base line to end-line [32]).

PEs in our study suggested, peer education need support from teachers especially in explaining difficult RH issues and to help in controlling problem behaviors of students. Their suggestions reflect their mature insight about their strengths and limitation.

Over all this study revealed peer education is an important strategy to disseminate reproductive health information for adolescents. Most importantly peer education, empowers peer educators, helped them build their self-confidence and shape them as potential leaders and mangers.

Peer education significantly changed the reproductive health knowledge, attitudes and health service use. In addition Peer educators have gained great personal development as educators. Thus peer education should be considered to disseminate reproductive health education and to nurture adolescents for future leaders.

5. Conclusions

Our results revealed important aspects regarding the effect of peer education on peer educators and their personal development. PEs expressed the usefulness and effectiveness of peer education in disseminating RH information for adolescents because adolescents share and seek information and support from their peers.

Moreover PEs expressed many personal development gains as educators. Learning by teaching" is the best learning method with which educators master the subject they teach. Moreover it empowered them to gain their self confidence that led to improved communication, teaching skills and leadership skills.

Thus we can conclude peer education is the best strategy to change behavior of adolescents at a larger scale within short period of time provided it is well planned and appropriately implemented.

6. Recommendations

In countries with limited resources peer education should be considered as one of the best strategies to disseminate health education program for adolescents. Finally; Peer education is one of the ways to identify and nurture potential leaders

7. Limitations of the study

Female only and same grade, which made comparing students in different grade levels impossible.

Acknowledgment

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Reference:

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